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ABSTRACT

Some fundamental characteristics and trends of the approach to teaching employed in functional literacy projects for adults are described, and avenues for study and research are suggested. The Experimental World Literacy Programme educational activities show two major methodological trends: an "ecological" trend and an "industrial" trend. The purpose of functional literacy is to develop in a socioeconomic context not only the technical and vocational skills of individuals but also their mental powers of analysis and their ability to communicate. A course that allows for diversification in respect to (1) programs and methods, (2) teaching materials, and (3) teacher recruitment is needed. The aim of a study of the environment is to ensure that the programs and their content shall be well suited to its needs and problems. The teaching strategy involves devising teaching programs, preparing teaching materials, and training the teachers. An indispensable methodological prerequisite is that responsibility for functional literacy programs be assumed at the beginning by the socioeconomic authorities and institutions (technical ministries, industrial and agricultural undertakings, trade unions, etc.) of the environment concerned. (DB)

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INTRODUCTION

The purpose of this document is to describe certain fundamental characteristics and trends of the approach to teaching employed in functional literacy projects for adults and to suggest some avenues of study and research.

The Experimental World Literacy Programme, which at present comprises 12 projects (1) in course of implementation, covers a very wide field of experiment, in which educational approaches and instruments are being developed along lines that merit careful definition and investigation.

Taken as a whole, the educational activities carried out under this programme currently reveal two major methodological trends: an "ecological" trend in so far as the imparting of functional literacy is a way of training individuals and groups to adapt to the technico-vocational and socio-economic requirements of development, and, less markedly, an "industrial" trend concerned to ensure that the technology of functional literacy should benefit more systematically from modern scientific and technical advances.

AN "ECOLOGICAL" APPROACH TO FUNCTIONAL LITERACY

The purposes of functional literacy campaigns integrated with development programmes are: (i) to prepare individuals and groups to become the agents of change; (ii) to adapt them to change; (iii) to give them a means of communication in writing so that they may be better equipped for life and work and so that they may use that means as a "memory" capable of promoting the acquisition of new knowledge and its constant adaptation to situations and problems.

Such integration inevitably calls for the adaptation of each functional literacy campaign to a particular environment, specific circumstances and concrete objectives. It is in terms of a <u>functional diversification</u> of the programmes and of a <u>reciprocal adaptation</u> of literacy campaigns and the socio-vocational environment that the "ecological" approach to functional literacy should be defined.

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(1) Algeria, Ecuador, Ethiopia, Guinea, India, Iran, Madagascar, Mali, Sudan, Syria, Tanzania, Venezuela

1. THE CONCEPT OF ADAPTATION IN FUNCTIONAL LITERACY

1.1 Adaptation to change

Economic change involves, inter alia, a corresponding change in individuals and groups: their technological adjustment or - in other words - the adaptation of their behaviour to meet new standards of work and output.

In an agricultural environment, the worker is called upon to harmonize his behaviour with national or local development policy, whether this involves the adoption of new methods and techniques of cultivation, the introduction of new varieties of crops or the institutional re-organization of production and marketing (co-operatives, self-management, agricultural credit societies, etc.).

In an industrial environment, technological adaptation is required to meet standards of productivity, uses of time and tempos of work to which workers with a recent rural background are not always accustomed.

In both cases the worker must acquire the capacity to adapt himself to change - in other words, the appropriate knowledge and habits of work.

Therein lies the relevance of functional literacy. Its purpose is to develop in a given socio-economic context, not only the technical and vocational skills of the individuals concerned, but also their mental powers of analysis and their ability to communicate so as to facilitate their adaptation to the standards, conditions and values implied in the change in which their participation is deemed to be necessary.

1.2 Reciprocal adaptation in functional literacy campaigns

In the pilot projects currently being carried out, the functional literacy campaign involves, on the one hand, an overall training in adaptation and, on the other hand, an adaptation of the training to specific purposes.

1.2.1 Functional literacy campaigns for overall training in adaptation

By definition, functional literacy is not confined to reading, writing and arithmetic, but usually takes in the following aspects of education as well: vocational training and further training, socio-economic initiation, industrial hygiene and safety and training of the mind.

These elements appear in different combinations and with varying content determined by the diversity of socio-vocational situations.

In India, the essential objective is to inculcate a knowledge of the agricultural methods and techniques of cultivation required for the introduction of high-yielding varieties of crops.

In some rural areas of Madagascar, Mali and Guinea, it is thought that rice production could be considerably increased by the adoption of such elementary farming practices as weeding, transplanting, row-cropping and draught-animal cultivation.

In Algeria and in Tunisia the technical level of workers in the agricultural sector is comparatively high.

These few examples show how the scope of technical and vocational training broadens according to circumstances, extending to individuals and groups in their rôle of responsible participants in a development undertaking and helping to enlarge their power to communicate and to understand the relevant problems and scientific and socio-economic facts.

1.2.2 Adaptation of functional literacy training to specific purposes

There is such a wide variety of socio-vocational environments, differing from one another psychologically, culturally, in respect of technological acculturation and in their economic aspects, that any functional literacy campaign aiming at an intensive training of individuals and groups must obviously take into account the specific character of each situation. Hence the importance of the other aspect of reciprocal adaptation in functional literacy campaigns: the diversification of programmes and of teaching methods and staff.

This means that what is required is not a single, uniform type of training, devised without reference to any specific situation, but a sort of "tailor-made" course allowing for diversification in respect of (i) programmes and methods, (ii) teaching materials, and (iii) teacher recruitment.

1.2.2.1 Diversification of programmes

Each functional literacy project diversifies its own programmes so as to allow for the diversity of situations and problems.

There can be no question of school-type methods of technical and vocational training, with their encyclopaedic approach. It is necessary instead to think in terms of diversified training schemes adapted to particular needs which take the form, at collective level, of the development objectives to be attained and, at individual level, of the new abilities and skills which it is necessary for each worker to acquire.

For example, the problems of cotton cultivation do not call for programmes with the same content in Syria, Tanzania or Mali because the social, vocational, psychological and cultural conditions prevailing in those countries are not the same. This applies, too, to industrial vocational training in similarly structured undertakings in Iran or Algeria, Mali or Guinea.

It may be noted in this connexion that programmes adapted to each principal crop have been drawn up in the pilot projects currently being executed; and that the same thing applies to certain industrial undertakings at Isfahan (Iran), Bamako (Mali) and Conakry (Guinea). There are thus 19 differentiated programmes currently being applied in Iran, 9 in Mali, 9 in Guinea, etc.

1.2.2.2 Diversification of teaching materials

The need for diversification is also taken into account in the case of the teaching materials employed. There, stress is laid on new educational devices and on the production and testing of teaching materials adapted to the requirements of each environment, the qualifications and qualities of the teachers and the national or local capacity for the production of teaching materials.

The aim is to ensure variety and flexibility in these materials, whether they are intended for the teacher (cards, teaching booklets, and bulletins, etc.)

or for the pupil (cards, readers, etc.), or designed for general use (posters, flannel boards, cut-outs, moveable letters, slides, films, etc.).

1.2.2.3 Diversification in the recruitment of teachers

Concern for the proper adaptation of the training scheme is also reflected in the choice and recruitment of teachers. Appointments are no longer confined to traditional school-teachers whose socio-vocational experience, being limited to the world of children, is not really suited to the requirements of adult functional education. Producer undertakings are increasingly supplying their own instructors (technicians, literate workers and farmers), who receive a suitable training in teaching and whose work is facilitated through the use of self-training teaching materials. These materials provide the user with the information that he is required to transmit; and each work session is carefully programmed in accordance with the principles of the method recommended.

The adaptive characteristics of functional literacy that we have just described have methodological implications for the pedagogical programming of the educational activities concerned.

2. TRANSLATION OF OBJECTIVES INTO FUNCTIONAL LITERACY PROGRAMMES

2.1 General objectives and technical objectives

In each project, the general objectives of development are expressed in terms of increased production by industrial or agricultural undertakings, fuller participation by the workers in economic and social life, agricultural diversification, reduced production costs, improvement in the standard of living, changes in the outlook and attitudes of the individual, and so forth.

For the purpose of attaining these overall objectives, the planning or organizing authorities (technical ministries, heads of undertakings, etc.) prescribe intermediate objectives, mostly of a technical or socio-economic nature.

In rural environments in Mali, the general aim is to increase the productivity of cotton, rice and groundnuts cultivation. The corresponding technical aims concern the improvement of agricultural operations relating to these three crops.

In Syria, in the context of a FAO-aided development project, the introduction of new crops (high-yielding wheat, sugar beet, cotton, etc.) and the organization of a co-operative system linked with land reform are technical and socio-economic aims whose attainment is considered indispensable to increased production. In the industrial undertakings of Bamako and Conakry, technical objectives vary with the operational unit and the category of job. They concern both the technical and organizational aspects of production and human relationships within the undertaking.

2.2 Objectives and problems

The identification of socio-economic, socio-cultural or other objectives is certainly necessary, but it is not enough. Adult education programmes might correspond to collective aims or individual aspirations, but they would not be well adapted to the real needs and the prevailing conditions. It is becoming increasingly clear that it is necessary to pass on to another stage, that is, to move from objectives to the problems that have to be tackled - those problems which, in fact, prevent the attainment of the proposed objectives. It goes without saying that the objective and subjective problems relating to individuals, groups or organizations are much more varied than the objectives. They are, however, also closer to the real facts and circumstances. It is for this reason that their identification constitutes a decisive step in the adaptation of the educational programmes to a particular environment and is indispensable as a preliminary to the drawing up of a truly functional programme.

2.3 Technical objectives and training objectives

Technical objectives can be translated into training objectives, that is, they can be expressed in terms of technical and vocational skills, ability to communicate, knowledge, working habits and attitudes.

It is considered necessary in most cases to define both the objectives and the problems through a study of the environment before they can be translated into a programme.

2.4 Study of the environment and preparation of programmes

In the field of functional literacy, the aim of a study of the environment is to ensure that the programmes and their content shall be as well suited as possible to its needs and its problems.

The purpose of the study is thus to define the impediments which are delaying or preventing the attainment of the aims that have been set. Its purpose is also to diagnose the real problems of training relating to a particular group of people, to identify the group to be taught literacy - and if possible those who might be called upon to teach them - and, lastly, to ascertain the social and psycho-cultural factors that can be used in devising the teaching approach to be adopted.

For the purpose of taking soundings of the environment, recourse has been made to a variety of techniques of investigation used in different combinations: direct observation, questionnaire, objective interviewing and group discussion.

The analyses of jobs, whether in an agricultural or in an industrial environment, are made by experts in consultation either with employers' organizations and their technicians or with the latter and representative samplings of the persons to be trained. The interview and the questionnaire are used in the same way.

The various activities selected are analysed with the help of experts and classified in an order of priority that takes account of production requirements. This level of analysis is generally considered sufficient for the purpose of working out the operational approach to a project.

On the occasion of the most recent international seminar on functional literacy, which was held at Tunis from 18 May to 5 June 1970, experiments were made with more sophisticated methods of field analysis than this sort of evaluation by individual experts. Using the tools of investigation referred to above, these methods made it possible to ascertain the level of vocational and technico-scientific knowledge among given population groups, to identify their mental approach and attitude to problems and related phenomena, and to note their reactions to certain solutions that were suggested to them.

This meant that the new knowledge could be grafted on to the knowledge the recipients already possessed, and that erroneous notions needing correction could be positively identified.

It is thus apparent that a study of the environment facilitates the adjustment of the training approach to the needs and problems detected and identified in the study. It is on that prior study that the effectiveness of this approach - and hence of the teaching strategy itself - depends.

3. TEACHING STRATEGY

This involves three main processes: devising teaching programmes, preparing the teaching materials and training the teachers.

3.1 Devising teaching programmes

Various methods of combining the elements of functional literacy are being tried out in the pilot projects of the Experimental World Programme.

3.1.1 The principle of integration

There is a significant general trend towards the adoption of the integration principle in the teaching of functional literacy. This has three main aspects.

In the first place, the programmes are integrated with the activities of the environment in the sense that the content of the training corresponds to the interests and economic activities of the population group concerned.

The content itself is twofold: practical training at the place of work (demonstration areas, workshops, building sites, etc.) and theoretical training in the classroom: scientific and technical instruction, basic socio-economics, elementary applied mathematics, and training in the use of the spoken and written word.

Secondly, the practical work and the theoretical work are integrated in so far as they both contribute to the development of the same subject-matter.

Lastly, the principle of integration is also in evidence at the level of the intellectual activities themselves, since the vocabulary, texts and examples used in reading, writing and arithmetic lessons can be drawn from the subject-matter of the pupils' practical and theoretical training.

3.1.2 "Converging" integrated approach

In this approach, classroom work extends or precedes practical work as part of a single sequence, so that the knowledge acquired through practice comes to be applied again, only to better purpose.

Each practical problem should be dealt with in terms of its technical, scientific and socio-economic aspects. The arithmetical work itself is designed to facilitate a grasp of the problem. Reading, too, is made to serve as a vehicle for ideas relating to the same problem. By way of illustration, the technical operation of dressing the vine is mastered in the following sequence: learning the required hand movements, technico-scientific explanation of the operation, explanation of the socio-economic aspects of the problem (standards of work and output), application of arithmetic to the above, reading of texts with a bearing on the operation.

In this converging approach, the "aim", or the "problem", constitutes the unifying theme of the training, whose rôle, for purposes of functional literacy, is to provide practical, scientific, socio-economic and arithmetical knowledge or information conducive to attainment of the aim or to a solution of the

problem. This principle of convergent integration governs the planning and preparation of the teaching materials.

3.2 Preparation of the teaching materials

Clearly, the teaching materials for functional literacy could be prepared in different ways, even if the basic principles remain the same. For the time being, two main systems for the preparation of appropriate materials are in use in the various experimental projects:

3.2.1 Comprehensive system

This is the system used in Tanzania, Ecuador and Ethiopia. It consists in preparing all the teaching materials required for functional literacy (readers, arithmetic manuals, posters, teaching guides) and then dividing up their contents into monthly, weekly and daily sections. The materials are then tried out and reproduced in corrected versions. (See the technical information paper on teaching materials in Tanzania reproduced in Annex II.)

3.2.2 Progressive system

Under this system the preparing and testing of the teaching materials is carried out in stages. The subject-matter is divided up into sequences, generally designed to last a week and to fit in with the day-to-day activities of the local population.

The teaching materials consist of cards and posters and care is taken to have a sufficient stock of cards before embarking on functional literacy operations.

The cards and posters are tried out as and when they are produced and advantage is taken of the results of this testing to adjust the stages and sequences and improve the material in course of preparation.

At the close of this experimental phase, the duration of which in an agricultural environment generally coincides with that of the cultivation cycle, the various cards are assembled in card-indexes, booklets and manuals that can be reproduced in the numbers required for the extension of functional literacy operations.

The progressive system is employed for the projects for Algeria, Mali, Guinea, Madagascar and Iran. (See the technical information paper on teaching materials in Iran reproduced in Annex II.)

3.3 The teachers: training and supervision

Considered as a human factor, the teachers represent one of the crucial problems in functional literacy projects. The various types of teacher available can be indicated schematically in terms of background and training problems as shown in the following table, taken from the report of the Tunis Seminar on Functional Literacy.

Types of Teacher		Main Training Problems
From same socio-occupational environment as students	(1) Inadequate level of technical proficiency	Technical training Teacher training
	(2) Adequate level of technical proficiency	Teacher training Scientific training
From different socio-occupational environment	(3) Adequate level of technical proficiency	Study of the environment Teacher training Scientific training
	(4) Inadequate level of technical proficiency	Study of the environment Teacher training Technical training
Teachers	(5) From different socio-occupational environment	Special teacher training --- Study of the environment Technical training
	(6) From same socio-occupational environment	Special teacher training --- Technical training

It will be clear from a glance at this table that the various types of teacher listed are not all equally capable of quickly assuming responsibility for unsupervised performance. Whereas category (2) is well placed to serve as a source of future advisers, categories (1), (4), (5) and (6) will for some time require the help of an experienced technician.

The disparities in the background and qualifications of the teachers make it necessary to establish a team of supervisors for every project. These supervisors act as educational counsellors, their functions being: to follow functional literacy operations in the field, to gauge the extent to which their results fall short of their objectives, to organize the training of teachers and guide them in their work, and to co-ordinate functional literacy operations with both central service and local services. In Iran and Mali such supervisors are gradually being appointed.

4. DIFFICULTIES AND PROBLEMS

In the preceding pages, only an outline has been given of the "ecological" approach to functional literacy. It goes without saying that this outline now calls for some development and qualification. Although it has seemed convenient and useful for the sake of clarity to state the broad principles that have emerged from actual operations, the fact nevertheless remains that the approaches and attitudes that have been described are not all strictly applicable in every case.

Indeed, it cannot be denied that a great many difficulties have arisen throughout the implementation of the various functional literacy projects.

4.1 Difficulties and problems relating to the requirements of interdisciplinary action

Adapting a functional literacy operation to a particular environment implies, from an "ecological" angle, that there shall be active participation on the part of that environment in the process of identifying the problems involved in the preparation of the actual teaching programmes.

Without such participation by the environment, functional literacy operations lack substance and adaptability and become something external and alien that is as likely as not to be rejected.

It is for this reason that, wherever the attitude of the technicians responsible for the development sectors has been one of indifference, mistrust or opposition, functional literacy operations have been either held up or impaired as regards their methods and scope.

It must therefore be regarded as an indispensable, methodological prerequisite that responsibility for functional literacy programmes should be assumed at the outset by the socio-economic authorities and institutions (technical ministries, industrial and agricultural undertakings, trade unions, etc.) of the environment concerned.

4.2 Conservatism in teaching

Another type of difficulty arises in connexion with the conception and execution of functional literacy programmes, namely, the professional conservatism of the teachers who, in most cases, are in charge of the realization of the various projects.

The principal impediment is the fact that functional literacy continues to be thought of in terms of instruction rather than of education and training.

This explains the survival of the academic approach that is even to be found in certain programmes with a technical and vocational content. Those practical aspects of training that are related to the work of production sometimes seem to be neglected and in some cases are not even included in the programme. The principle of integration appears to be respected, but in fact the sequence and methods used in the teaching of reading, writing and arithmetic retain the academic features of a school subject, to the detriment of the proper function of these disciplines in functional literacy work, which is that of a vehicle and an instrument of training.

In many cases even the "classes" of adults to whom the teaching is given call to mind the traditional classes of the school. By and large, in fact, the educational relationship between teacher and taught has retained its traditional form to such an extent that modern notions of group psychology and teaching, leadership and participation are not so much applied in practice as relegated to the realm of abstractions.

There is also often an illusory belief among educators that an adult's reaction to pictorial representations are the same as those of a child. Indeed, no account is taken of the adult's perceptual faculties in the preparation of the teaching materials and the way in which he learns and appreherds remains a mystery.

The foregoing considerations suggest a number of possible lines of thought and research.

5. LINES OF THOUGHT AND RESEARCH

In general, one of the weaknesses of the Experimental World Functional Literacy Programme lies in the fact that it is still rather poor in the field of research and experiment. (See the document on experimentation in Annex III and the research issue of the Bulletin of the International Institute for Adult Literacy Methods in Annex IV.)

Among the questions falling within the scope of the present document that have yet to be investigated, the following may be mentioned:

(i) differential psychology of illiterate adults

- intellectual development; conceptualization, perception, memory
- motivation, representations
- process of adaptation to innovation

(ii) functional literacy: the process and the socio-pedagogical factors;

(iii) functional literacy: animation techniques and group phenomena

(iv) application of the foregoing to teaching

- educational psychology of the learning process among illiterate adults
- educational psychology of specific disciplines (reading, writing, arithmetic)
- educational psychology of vocational training at the place of work.

(v) correlation of sociological studies of environments ("taking soundings of the environment") and educational programming

(vi) methods of innovation in teaching (presentation of the programmes, treatment of the subjects, etc.)

The foregoing list of possible subjects of research is far from being exhaustive. It nevertheless provides some indication of the scope and range of the subjects remaining to be investigated.

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CONCLUSION

From this brief sketch of the various aspects of the methodology of functional literacy a certain number of lines of thought and action emerge.

In the first place, the innovating character of the functional approach to literacy should be stressed. The fact that it is situated at the meeting-point of a number of disciplines means that this approach inevitably constitutes an amalgam of psychology, sociology and educational theory.

Secondly, the dynamic and evolutionary characteristics of the methods and techniques that have been described will have been noted.

Adapting the education and training of illiterate population groups to the facts of a changing environment so as to speed up its transformation and development; endowing the environment itself with an educational function - this necessarily involves a reconsideration of traditional teaching notions and is bound to provoke resistance from conservative quarters.

It should cause no surprise, therefore, to find that the innovating trends which have been described have encountered obstacles and that fundamental principles have not always been maintained unimpaired - which in turn has meant that there have been delays, and occasional inhibitions, in both experiment and action. At all events, universities, research institutes and educational or development organizations and institutions will find in the new field of functional literacy fruitful and wide-open possibilities of innovation and, in particular, opportunities of defining and promoting modern teaching methods capable of creating a more functional and less formal link between education, training and action - in other words, between man and his environment.